



IEEE open source offering

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Make open source an IEEE offering

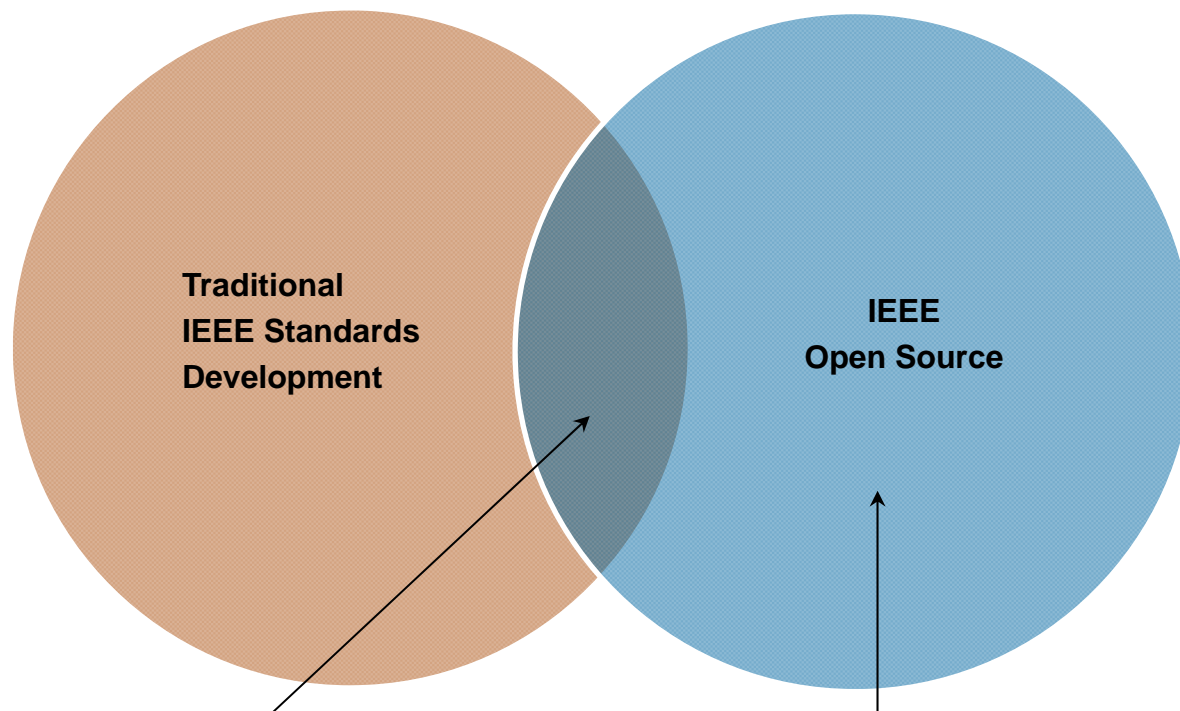
- IEEE-SA Rationale for Open Source
- Our Vision - Future state of SA with open source integrated into the system
- IEEE-SA CAG Proposed Project Principles
- Work to Date (Use Cases, Pilots, License Types)
 - Specifically around Use Cases 3,4
- Pilot Projects
 - IEEE 1076 Pilot...– A Closer Look
- Ask of Standards Governance

IEEE-SA Rationale for Open Source

- ▶ Standardization continues to evolve to a point where open source code development will increasingly play a complementary and some times a substitute for open standards development in the SDO sense.
- ▶ The IEEE-SA believes that its members should have the opportunity to benefit from this trend by offering the option for open source code development.
- ▶ In addition, the IEEE-SA believes that by offering the open source development capability to its membership the SA will achieve:
 - Greater opportunity for collaboration
 - Members are not required to work on two different platforms to have a successful open source and standards initiative
 - The ability to engage diverse stakeholder bases from the open source community that may provide complementary initiatives that can build upon the standardization efforts or offer open source projects believed ready for standardization.



IEEE-SA CAG Open Source Ad Hoc



Use Case 3: *Informative part of Standard*
Use Case 4: *Normative part of Standard*

Use Case 1: *Test + Tools Framework*
(For example open service/certification/test programs)
Use Case 2: *Example Implementation*
(Implementing IEEE Standard(s) within IEEE)
Use Case 5: *Work developed elsewhere that may/may not be contributed to the IEEE-SA for standardization*
Use Case 6: *Open Source applications*

IEEE-SA CAG Proposed Project Principles

- ▶ IEEE is equally supportive of open source and standards as collaborative processes
- ▶ IEEE promotes innovation through the collaborative engagement of industry, open source communities, and a broad base of stakeholders to address market needs
- ▶ IEEE will offer a friendly open source process
 - For example: *low barriers to entry to contribute, familiar to external/non-standards open source participants*
- ▶ IEEE Code of Ethics will be applicable to both standards and open source projects

2017 Revised Work Plan

Workstream	Description	Status	Start	End
Evaluate open source integration into the IEEE-SA Standardization Process	<ul style="list-style-type: none"> PatCom, AudCom, RevCom, ProCom (Q4) – Write/Review – staff and small team work on it to form the strawman (JP and the Ad Hoc of the SASB and each Chair) Identify & develop for approval the operating principles to integrate into standardization working groups the ability to instantiate open source efforts (includes PAR, Working Group Kickoff, Revision Management, Code sourced) 	In progress - CLA approached moving forward with pilots; delay in use cases work;	Q2	Q4
Pilot Open Source project using package	<ul style="list-style-type: none"> Open source project pilot for P2413 or alternate project [4 projects in discussion at the moment] P1076 launched as a pilot 	In progress – on track	Q1	Q4
Community education	<ul style="list-style-type: none"> IEEE OU education with respect to open source impact [In Progress] GitHub education for IEEE Members [Will align this with initial pilot launch timing-wise] 	In progress – on track	Q1	Q2
Marketing & Messaging	<ul style="list-style-type: none"> Webinar on open source and IEEE [Complete] Humanitarian focus on open source (Herrera) [In Progress] OSCON open standards, open source workshop [In Progress] : IEEE Open Source + Open Standards [Complete] Once Pilots initiated associated marketing launch plans will be developed 	In Progress – on track	Q1	Q4
Resourcing	<ul style="list-style-type: none"> Appropriately resourcing the IEEE-SA/ISTO projects with open source community management Ensuring that proper open source expertise available to help address any challenges that may emerge 	In progress – community manager job description posted and interviews in progress	Q1	Q4 '18
Integrate open source into the IEEE-SA Process	<ul style="list-style-type: none"> Integrate approved operating principles on how working groups can instantiate open source efforts in the IEEE standardization process (includes PAR, Working Group Kickoff, Revision Management, Code sourced) Training for staff project managers and governance staff Similarly training for working groups on open source within IEEE Standards & Open Source 		Q4	2018

Progress to Date

- ▶ Proposed Licensing Strategy
 - Agreement on licenses to be offered for open source projects available to the public (Apache 2.0, BSD 3-Clause)
 - Consensus to use Apache Contribution License Agreement (CLA) as base for developing CLAs for two licenses
 - CERN as a hardware license currently under review
- ▶ Work Streams progress update
 - Use Cases
 - Pilots
 - IPR
 - Marketing and Messaging

Progress to Date (Cont.)

- ▶ IEEE Open Source Webinar
- ▶ 3 Proposed Open Source Pilots under discussion:
 - IoT Visualization IoT Open Source project to be brought in under Industry Connections leveraging IIC business cases into P2413 technical use cases// Industry Connections
 - IEEE 1076//Channel: Standards Working Group
 - IOT/XEPs// Channel: Industry Connections
- ▶ Open Source Community Manager Role (Staff addition) Posted
- ▶ OSCON 2017
- ▶ CAG Open Source Strategy Meeting - 2017 

Integrate Open Source Package Licenses Into IEEE-SA Process

- ▶ Contribution License Agreements (CLAs)
 - CLA work has been drafted
 - Agreement by Ad Hoc that we would revisit in a few months if there is a need to update
 - IEEE P1076 pilot using drafted CLAs
- ▶ Next Step
 - Offer the CLAs to other pilot projects and review any issues that arise as a part of the pilots

Pilot Open Source Project Using Package

- ▶ Pilot Inquiries
 - IEEE 1076 Pilot
 - Two others currently under consideration by proposers
 - Pilots will help to inform use cases
- ▶ Next Steps
 - Guide pilots upon responses received from proposers
 - Instantiate Industry Connection requests where appropriate and launch plans
 - Resource efforts appropriately

Marketing & Messaging

- ▶ Raising Awareness
 - IEEE Open Source Webinar very well attended with great interest and netted further pilot inquiries (COMPLETE)
 - OSCON: Ability to instantiate projects at IEEE, How to get involved in planned activities; evaluate further candidates open source community managers (COMPLETE)
 - Open source + open standards workshop to drive additional clarity in marketplace between SDOs, Consortia and open source entities for the benefit of market participants (COMING SOON)

- ▶ Next Steps
 - Guide pilots upon responses received from proposers
 - Instantiate Industry Connection requests where appropriate and launch plans (include websites, etc)
 - Community Engagement efforts
 - Resource efforts appropriately

About IEEE P1076-2017

1076 WG (Jim Lewis - chair; Patrick Lehmann - vice-chair; Rob Gaddi - vice-chair)

- ▶ VHSIC hardware description language (VHDL) is defined. VHDL is a formal notation intended for use in all phases of the creation of electronic systems. Because it is both machine readable and human readable, it supports the development, verification, synthesis, and testing of hardware designs; the communication of hardware design data; and the maintenance, modification, and procurement of hardware. Its primary audiences are the implementers of tools supporting the language and the advanced users of the language.
- ▶ IEEE 1076 is organized under CS/DASC which is chaired by Stan Krolkoski. Previous approved version: IEEE 1076-2008.



IEEE P1076 Pilot OS Rationale

Aligning open source code developed in parallel with the standard and offered “live” upon approval. Specifically, P1076 needs to be approved in 2017. The draft is going for ballot in early summer 2017. Releasing the code as open source in the same time frame is the goal.

The IEEE 1076 standard allows modification of the “package body” of the code by vendors. This preserves a standard calling interface while allowing the vendors to optimize their version.

The code provides a reference implementation of standard library functionality dictated by the standard, but does not provide information as to the usage, nor to the underlying concepts being expressed. As a very rough estimate, 5%.

The open source work will not be a replacement towards the development of a standard, but it will reference an existing standard and be embedded in a standard.

By developing the open source code as part of IEEE Std. 1076-2017 standards development work, the intent is to be able to provide updates to packages between standard revisions - mainly bug fixes.



IEEE P1076 Pilot OS Rationale (Cont.)

Existing code from IEEE Std. 1076-2008 extended by additions from language change specifications for the 2017 revision (including bug fixes collected since 2008).

Currently the code exists within 1076-2008 and the update to this code will be reflected in 1076-2017. The open source code will be impacted by any new IEEE Std. 1076 revision.

The code is updated by members of the working group. Outsiders can report issues or propose changes.

During previous revisions LOAs were provided for the original contribution of packages. All current work has been done within the working group and no new packages have been contributed. Further, CLAs have been requested of the Working Group participants as well.

Making the packages open source is an extension of their current method of verbatim distribution.

Questions?

Thank you